

WHAT IS CLAIMED IS:

1. A method, comprising:
obtaining image data for a first type of noise region in a digital image;
using said image data for said first type of noise region to locate a
second type of noise region in said digital image; and
5 filtering said second type of noise region.

2. The method of claim 1, wherein said digital image comprises color
image data; wherein said first type of noise region comprises color image data; and
wherein said second type of noise region comprises color image data.

3. The method of claim 1, further comprising locating said first type of
noise region in said digital image.

4. The method of claim 3, wherein locating said first type of noise region
in said digital image comprises:
using an edge detect filter to locate an edge in said digital image;
determining whether said edge is less than or equal to a first
5 reference area; and
if said edge is determined to be less than or equal to said first
reference area, tagging said edge as said first type of noise region.

5. The method of claim 3, wherein locating said first type of noise region
in said digital image comprises using out-range pixel smoothing to locate said first
type of noise region.

6. The method of claim 1, further comprising allowing a user to decide
whether said second type of noise region is filtered.

7. The method of claim 1, wherein using said image data for said first
type of noise region to locate a second type of noise region in said digital image
comprises:

locating in said digital image a group of adjacent pixels, each pixel of
said group of adjacent pixels having image data substantially similar to the
image data for said first type of noise region; and
determining whether said group of adjacent pixels is less than or

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equal to a second reference number.

8. The method of claim 7, further comprising allowing a user to select said second reference area.

5 9. The method of claim 7, wherein the image data for said first type of noise region comprises a gray scale value; wherein the image data for each pixel of said group of adjacent pixels comprises a gray scale value; and wherein the image data for a corresponding pixel of said group of adjacent pixels is substantially similar to the image data for said first type of noise region when the absolute value of the gray scale value of said corresponding pixel subtracted from the gray scale value of said first type of noise region is less than a threshold number.

10. The method of claim 9, further comprising allowing a user to select said threshold number.

11. The method of claim 7, wherein the image data for said first type of noise region comprises color image data; and wherein the image data for each pixel of said group of adjacent pixels comprises color image data.

12. The method of claim 11, wherein the color image data of said first type of noise region comprises:

- a red tristimulus value;
- a green tristimulus value; and
- 5 a blue tristimulus value;

wherein the color image data for each of said group of adjacent pixels comprises:

- a red tristimulus value;
- a green tristimulus value; and
- 10 a blue tristimulus value;

wherein the image data for a corresponding pixel of said group of adjacent pixels is substantially similar to the image data for said first type of noise region when the absolute value of the red tristimulus value of said corresponding pixel subtracted from the red tristimulus value of said first type of noise region is less than a red threshold number, when the absolute value of the green tristimulus value of

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said corresponding pixel subtracted from the green tristimulus value of said first type of noise region is less than a green threshold number, and when the absolute value of the blue tristimulus value of said corresponding pixel subtracted from the blue tristimulus value of said first type of noise region is less than a blue threshold number.

13. The method of claim 12, further comprising allowing a user to select said red, green, and blue threshold numbers.

14. The method of claim 1, wherein filtering said second type of noise region from said digital image comprises:

obtaining image data for a region in said digital image;
computing average image data from the image data for said region;

and

mapping said average image data to said second type of noise region.

15. The method of claim 14, wherein said region comprises at least one pixel located adjacent said second type of noise region.

16. The method of claim 14, further comprising allowing a user to select said region.

17. The method of claim 14, wherein said region comprises one or more pixels, each of said one or more pixels having image data comprising a gray scale value; and wherein computing average image data from the image data for said region comprises computing an average gray scale value from the gray scale value of at least one pixel of said one or more pixels.

18. The method of claim 14, wherein said region comprises one or more pixels, each of said one or more pixels having color image data comprising:

a red tristimulus value;
a green tristimulus value; and
a blue tristimulus value;

wherein computing average image data from the image data for said region comprises computing an average red tristimulus value, an average green tristimulus value, and an average blue tristimulus values from the red, green, and blue

tristimulus values of at least one pixel of said one or more pixels.

19. The method of claim 14, wherein said region comprises one or more pixels, each of said one or more pixels having color image data comprising:

- a red tristimulus value;
- a green tristimulus value; and
- a blue tristimulus value;

wherein computing average image data from the image data for said region comprises:

inputting the red, green and blue tristimulus values of at least one pixel of said one or more pixels into a color look-up table to obtain one or more color reference numbers;

computing an average color reference number from said one or more color reference numbers; and

inputting the average color reference number into said color look-up table to obtain a red tristimulus value, a green tristimulus value, and a blue tristimulus.

20. The method of claim 1, wherein filtering said second type of noise region comprises:

subdividing said second type of noise region into a plurality of subsections;

obtaining image data for a region associated with each of said plurality of subsections;

computing average image data for each of said regions from its image data; and

mapping said average image data for each of said regions to a corresponding one of said plurality of subsections.

21. Apparatus, comprising:

one or more computer readable storage media;
computer readable program code stored on said one or more computer readable storage media, comprising:

program code for obtaining image data for a first type of noise region in a digital image;

program code for using said image data for said first type of noise region to locate a second type of noise region in said digital image; and

10 program code for filtering said second type of noise region.

22. Apparatus, comprising:

means for obtaining image data for a first type of noise region in a digital image;

means for using said image data for said first type of noise region to

5 locate a second type of noise region in said digital image; and

means for filtering said second type of noise region.

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